
A New Species of *Phyllanthus* (Phyllanthaceae) from Northeastern Brazil

Marcos José da Silva

Programa de Pós-graduação em Botânica, Universidade Federal Rural de Pernambuco, Recife, Pernambuco, 52171-900, Brazil. marcos_agrorural@hotmail.com

Margareth Ferreira de Sales

Departamento de Biologia, Universidade Federal Rural de Pernambuco, Recife, Pernambuco, 52171-900, Brazil. mfsales.2002@ig.com.br

ABSTRACT. *Phyllanthus gradyi* M. J. Silva & M. F. Sales from Brazil is described and illustrated, and its affinities are discussed. The new species is included in *Phyllanthus* L. subg. *Botryanthus* G. L. Webster sect. *Elutanthos* Croizat.

Key words: Brazil, Pernambuco, Phyllanthaceae, *Phyllanthus*.

Phyllanthus L. (Phyllanthaceae) is a pantropical genus with more than 800 species. A large majority are herbaceous, with phyllanthoid branching, staminate flowers with a generally segmented glandular disk, pistillate flowers with an entire glandular disk, and diversely sculptured seed coats. The genus is represented by approximately 200 species in the Neotropics, with ca. 107 occurring in Brazil (Webster, 2002). Recent herbarium surveys show that northeastern Brazil has 36 species, mostly herbaceous, growing in open habitats among different vegetation types, or as weeds. During a study of *Phyllanthus* from Pernambuco, a species was encountered with a suite of morphological characteristics that distinguish it from all other Neotropical species of *Phyllanthus*.

Phyllanthus gradyi M. J. Silva & M. F. Sales, sp. nov. TYPE: Brazil. Pernambuco: Mun. Caruaru, Sítio Serra dos Cavalos, 11 Feb. 1995, S. J. Mayo, I. M. Andrade & M. L. Soares 1002 (holotype, PEUFR; isotypes, DAV, INPA, IPA, UEC). Figure 1.

Haec species arbore, sepalis masculis 4, staminibus 2, *Phyllantho biantherifero* Croizat similis, sed floribus staminatis disco cupuliformi, integro, staminibus liberis, ramulis apice dense tomentoso differt.

Tree 3–6 m, monoecious; stem densely branched; branching non-phyllanthoid; branches cylindrical, gray, densely tomentose on young parts, trichomes rust-colored; stipules 2–2.8 mm long, lanceolate, acuminate, rigid, densely tomentose on external face,

glabrous on internal face, midvein evident, margin ciliate, green to vinaceous. Petiole 1.3–2.1 mm long, cylindrical, hirsute; leaf blade 3.5–11 × 1.5–4.5 cm, firmly chartaceous, elliptic to widely elliptic, base obtuse, apex acuminate and mucronate, margin entire, adaxial surface dark green, abaxial surface light green to brown when young, hirsute at base in midvein, brochidodromous, principal and secondary veins prominent only in the abaxial surface. Fascicles axillary, 6 to 13 staminate and 2 to 3 pistillate flowers; bracts 6 to 9 per fascicle, 1.2–2 × 0.5–0.6 mm, widely triangular, external pubescent. Staminate flowers with pedicel 0.7–1.3 cm long, filiform, glabrous, greenish; sepals 4, ovate, obtuse-rounded at the tip, yellowish, midvein evident; disk glandular, cupuliform, fleshy, margin tetragonal; stamens 2, free, facing each other, filaments thickened, anthers with enlarged connective, dehiscing horizontally; pistillate flowers with pedicel 1.2–3.1 cm long, filiform, vinaceous to whitish near receptacle; sepals 6, oblong to lanceolate, apex obtuse to rounded, midvein evident, yellow-green to light green; disk glandular, cupuliform, fleshy, margin irregularly lobed; ovary 1.1–1.2 × 2.5–2.6 mm, oblong; styles 3, free, bifurcate, recurved; stigmas acute. Capsule 2.5–2.6 × 5–5.2 mm, spheroid, styles persistent, fruiting pedicel 2.2–2.8 mm long, glabrous to glabrescent; seeds 3–3.1 × 2.5–2.8 mm, trigonous, areolate.

Distribution and habitat. This species appears to be restricted to humid forests in northeastern Brazil. It has been found in ombrophilous lowland forest fragments (Atlantic Coastal Forest) in the states of Pernambuco and Alagoas, as well as in montane forests (“Brejos de altitude,” Sales et al., 1998) within the transition zone between humid forests and semi-arid regions at altitudes from 700 to 900 m in Pernambuco. It was found in small populations within the forest interior in shaded, humid areas, growing on clay or sandy-clay soils covered by leaf litter.



Figure 1. *Phyllanthus gradyi* M. J. Silva & M. F. Sales. —A. Flowering branch. —B. Leaf, showing the trichomes at its base. —C. Stipule. —D. Staminate sepal. —E. Pistillate sepal. —F. Staminate flower. —G. Glandular pistillate disk. —H. Pistillate flower. —I. Fruit. Drawn from S. J. Mayo *et al.* 1002 (PEUFR).

Phenology. Flowering in September to March; fruiting in November to January.

The suite of characteristics demonstrated by this species, including non-phyllanthoid branching, sta-

minate calyx with four sepals, two free stamens with horizontally dehiscing anthers, entire glandular staminate disk, pistillate calyx with six sepals, and glandular, cupuliform pistillate disk, clearly distin-

guishes this species from other Neotropical taxa. Nonetheless, it does show some affinities with *Phyllanthus biantherifer* Croizat, a Brazilian Amazon species (Croizat, 1944), because both share the same habit and pattern of branching (non-phyllanthoid), the same number of staminate sepals (4) and stamens (2), as well as firmly chartaceous, elliptic, acuminate leaves. However, *P. gradyi* differs from *P. biantherifer* notably by having free stamens, entire staminate disk, and young branches densely tomentose (vs. united stamens, segmented staminate disk, and young branches glabrous in *P. biantherifer*), as well as lanceolate, externally rust-colored tomentose stipules (vs. triangular and glabrous in *P. biantherifer*).

By these characters, *Phyllanthus gradyi* is included in *Phyllanthus* subg. *Botryanthus* G. L. Webster sect. *Elutanthos* Croizat (Phyllanthaceae), which includes approximately 35 Neotropical taxa, characterized principally by their woody habit, non-phyllanthoid branching, lack of cataphylls at the insertion of the branches of the principal stem, as well as horizontal or oblique dehiscence of the anthers (Webster, 1958). However, *P. gradyi* differs from the other taxa of subgenus *Botryanthus*, as these all have 3 connate stamens (2 free stamens in *P. gradyi*), a 6-merous staminate calyx (vs. 4), and partially united styles (vs. free). The type section *Elutanthos* of this subgenus furthermore has a segmented glandular staminate disk (vs. cupuliform).

Etymology. The specific epithet is dedicated to Grady Linder Webster of the University of California at Davis, U.S.A., in recognition of his important

contributions to our knowledge of the family Euphorbiaceae s.l., especially the genus *Phyllanthus*.

Paratypes. BRAZIL. **Pernambuco:** Abreu e Lima, M. J. Silva, M. Oliveira & A. Gomes 557, 558, 559 (PEUFR); Barreiros, M. J. Silva 539, 540, 541, 542, 545 (PEUFR); Camocim do São Felix, L. P. Félix & M. de Paula 6491 (PEUFR); Igarassu, M. J. Silva 372 (PEUFR); Recife, D. Andrade-Lima 50–454 (IPA); São Lourenço da Mata, D. B. Pickel 11 (IPA); São Vicente Férrer, E. M. Nogueira Ferraz 598, 614, 765 (PEUFR); Tamandaré, M. F. Lucena 811 (PEUFR). **Alagoas:** Ibateguara, M. Oliveira & A. Grilo 710 (PEUFR, UFP).

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